CLAIMS

What is claimed is:

1. A disk cartridge comprising:

a case for containing a disk; and

a transparent window installed to the case so as to allow an external light to access the disk in the case.

2. The disk cartridge of claim 1, wherein the transparent window is installed such that an outer surface of the transparent window is inwardly depressed relative to a surface of the case.

3. The disk cartridge of claim 1, wherein the transparent window is attachable to and detachable from the case.

4. The disk cartridge of claim 1, wherein the transparent window is formed of at least one of a glass and acryl.

5. The disk cartridge of claim 1, wherein the transparent window is installed such that an outer surface of the transparent window is level with a surface of the case.

6. The disk cartridge of claim 1, further comprising a shutter which selectively opens and closes to reveal the transparent window.

7. The disk of claim 1, wherein the transparent window has a width of at least W corresponding to the following relationship:

$$W = \frac{2t \cdot NA}{n}$$

where t is a distance from an outer surface of the transparent window to the disk, NA is a numerical aperture of a lens of a pickup which emits the external light and n is a refractive index of the transparent window.

8. The disk cartridge of claim 1, wherein the transparent window has a width of at least 0.8mm.

9. The disk cartridge of claim 1, wherein the transparent window has a width of ~ 2mm.

10. The disk cartridge of claim 2, wherein the transparent window is attachable to and detachable from the case, and is formed of at least one of a glass and acryl.

11. The disk cartridge of claim 10, wherein the transparent window has a width of at least *W* corresponding to the following relationship:

$$W = \frac{2t \cdot NA}{n}$$

where *t* is a distance from the outer surface of the transparent window to the disk, *NA* is a numerical aperture of a lens of a pickup and *n* is a refractive index of the transparent window.

12. The disk cartridge of claim 11, further comprising a shutter which selectively opens and closes to reveal the transparent window.

13. A transparent window for use in a disk cartridge having a case for containing a disk, wherein the transparent window is attachable to and detachable from the case and allows an external light to access the disk in the case.

14. The transparent window of claim 13, wherein the transparent window is formed of at least one of a glass or acryl.

15. The transparent window of claim 14, wherein the transparent window has a width of at least *W* corresponding to the following relationship:

$$W = \frac{2t \cdot NA}{n}$$

where *t* is a distance from an outer surface of the transparent window to the disk, *NA* is a numerical aperture of a lens of a pickup which emits the external light and *n* is a refractive index of the transparent window.

16. The transparent window of claim 15, wherein the transparent window has a height such that the outer surface of the transparent window is one of inwardly depressed relative to and at level with a surface of the case.

17. The transparent window of claim 16, wherein the transparent window has a width of ~ 2mm.

18. The disk cartridge of claim 1, wherein the transparent window is installed to the case so as to prevent an inflow of a foreign matter into the case.

19. A disk cartridge comprising:

a case for containing a disk, wherein the case includes upper and lower surfaces; and

a transparent window having top and bottom surfaces, wherein the transparent window is installed to the case so as to allow an external light to access the disk in the case through the top and bottom surfaces of the transparent window.

20. The disk cartridge of claim 19, wherein the transparent window is installed such that the top and bottom surfaces of the transparent window are one of inwardly depressed relative to and level with the upper and lower surfaces of the case, respectively.

21. The disk cartridge of claim 20, wherein the transparent window is attachable to and detachable from the case, and is formed of at least one of a glass and acryl.

22. The disk cartridge of claim 21, wherein the transparent window is installed to the case so as to prevent an inflow of a foreign matter into the case.

23. The disk cartridge of claim 22, wherein the transparent window has a width of at least *W* corresponding to the following relationship:

$$W = \frac{2t \cdot NA}{n}$$

where *t* is a distance from the outer surface of the transparent window to the disk, *NA* is a numerical aperture of a lens of a pickup and *n* is a refractive index of the transparent window.

24. The disk cartridge of claim 23, further comprising a shutter which selectively opens and closes to reveal the transparent window.